

LIST OF CURRENT CLAIMS

1. (Currently Amended) [[-]] Configurable large-area display system ~~with~~ including a display (114) comprising a plurality of sub-displays that each contain an array of pixels (122), ~~characterized in that it further comprises~~ said system further comprising a central controller hardware and software block (110) containing software to control the display system (100) and to generate control data and video signals to be displayed on the display (114); a digitizer (112) that converts said control data and video signals to a digital signal compatible with the display (114); ~~whereby~~ wherein the digitized control data and video signals are passed from one sub-display to the next, and ~~whereby~~ wherein each sub-display is a control unit (116) capable of controlling the individual pixels (122) of said control unit (116) as a function of its position within the display (114) and of the received control data and video signals.
2. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, ~~characterized in that~~ wherein central controller hardware and software block (110) is electrically connected to digitizer (112) via a standard RS-232 connection (111).
3. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, ~~characterized in that~~ wherein the digitizer (112) is connected to the display (114) by means of a fiber link (113).
4. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, wherein ~~characterized in that~~, in the event that the distance between two successive control units (116) exceeds a predetermined distance, an intermediate resyncer (118) is used between said two control units (116) to receive and retransmit the control data and video signals.

5. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, ~~characterized in that~~ wherein each control unit (116) further includes an AC-to-DC power supply (210), a resynchronizer unit (212) to receive and transmit data, an EEPROM (224), and a controller (216) driving a plurality of pixel clusters (218) that each includes a plurality of modules (220), each containing an array of light-emitting pixel elements (222).

6. (Currently Amended) [[-]] Configurable large-area display system according to claim 5, ~~characterized in that~~ wherein the EEPROM (224) contains production data and factory light output measurements, as well as color coordinates for each pixel (222) within modules (220).

7. (Currently Amended) [[-]] Configurable large-area display system according to claim 5, ~~characterized in that~~ wherein the controller (216) contains algorithms to parse the control data and video signals received into specific packets associated with the location of a given module (220) within the concerned control unit (116) of display system (100).

8. (Currently Amended) [[-]] Configurable large-area display system according to claim 5, ~~characterized in that~~ wherein the controller (216) is provided with means for managing the pulse width modulation associated with driving pixels (222) of each module (220).

9. (Currently Amended) [[-]] Configurable large-area display system according to claim 5, ~~characterized in that~~ wherein the control unit comprises four pixel clusters (218), each pixel cluster (218) containing 32 modules (220) that are suitably interconnected for a daisy-chain signal distribution.

10. (Currently Amended) [[-]] Configurable large-area display system according to claim 5, ~~characterized in that~~ wherein each module (220) comprises an array of 2 x 2 pixels (222).

11. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, ~~characterized in that~~ wherein the pixels (222) are light-emitting diodes (LED).

12. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, ~~characterized in that~~ wherein the dimensions of the modules (220) are relatively small, such that they can be assembled to form displays having any 2D or 3D shape.

13. (Currently Amended) [[-]] Configurable large-area display system according to claim 1, ~~characterized in that~~ wherein the modules (220) of the display (114) are arranged in a standalone manner so that the display (114) apparently has a transparent structures.

14. (Currently Amended) [[-]] Control unit for use in a configurable large-area display system, said control unit ~~according to any of the preceding claims, characterized in that~~ it is configured as a sub-display comprising a plurality of pixel clusters (218), each ~~composed of~~ comprising a plurality of pixel modules (220) that are sequentially interconnected with each other and each containing an array of light-emitting pixel elements (122).

15. (Currently Amended) [[-]] Control unit according to claim 14, including ~~characterized in that it further includes~~ an AC-to-DC power supply (210), a resynchronizer unit (212) arranged to receive and transmit control data and video signals; a controller (216) connected to the resynchronizer unit (221) and driving the pixels (222) contained in the modules (220) and clusters (218); and an EEPROM (224) connected to the controller (216).

16. (Currently Amended) [[-]] Control unit according to claim 15, wherein ~~characterized in that~~ the EEPROM (224) contains production data and factory light output measurements, as well as color coordinates for each pixel (222) within modules (220).

17. (Currently Amended) ~~[[-]]~~ Control unit according to claim 15, wherein ~~characterized in that~~ the controller (216) contains algorithms to parse the control data and video signals received into specific packets associated with the location of a given module (220) within the concerned control unit (116) of display system (100).

18. (Currently Amended) ~~[[-]]~~ Control unit according to claim 14, wherein ~~characterized in that~~ the controller (216) is provided with means for managing the pulse width modulation associated with driving pixels (222) of each module (220).

19. (Currently Amended) ~~[[-]]~~ Control unit according to claim 14, wherein ~~characterized in that~~ the pixels (222) are light-emitting diodes (LED).

20. (Currently Amended) ~~[[-]]~~ Method of operating a large-area display system ~~according to any of the claims 1 to 13, characterized in that said method includes~~ made in accordance with claim 1, comprising the steps of applying power to the display (114); determining whether the display (114) is to be configured or reconfigured; determining the hardware configuration; setting the desired spacing of the picture elements (222); reading the EEPROM (224) for obtaining stored production data and factory light output measurements, as well as color coordinates for each pixel (222) within modules (220); transmitting and distributing video signals and control ~~data~~ data to the display; parsing the video data, and transmitting the video data stream to the pixel clusters (218).

21. (Currently Amended) ~~[[-]]~~ Method of operating according to claim 20, ~~characterized in that~~ wherein, depending on the desired spacing, some intermediate pixels (222), which are spaced apart less further than desired, are ignored for use.